

Test Chi-square Test

meaning of χ^2 Test :-

χ^2 Test is used to Test the Significant different between observe frequency and expected frequency.

Definition of χ^2 Test :-

Chi-Square Test can be used to determine if Categorical data show dependency or two Classification are independent. It can also be used to make comparison between theoretical population and Actual Data when Categories are used.

uses of Chi-Square Test :-

- * It is useful to test the goodness of fit.
- * It is useful to test the significant of association between two attributes.
- * It is useful to test the significant (or) homogeneity of Population variance.

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Formula For Chi-Square Test :-

$$\chi^2 = \sum \left(\frac{O-E}{E} \right)^2$$

O = Observed Frequency.

E = Expected frequency.

E = $\frac{\text{row Total} \times \text{Column Total}}{\text{Grand Total}}$.

N = Total number of observation.

Explain the steps to be follow in the Process of Test in the Significant using χ^2 Test?

* Formulation of Null hypothesis (or) Alternative hypothesis.

* Determine the level of significant.

* Calculated the expected frequency.

Row Total \times Column Total

Grand Total (or) (N) \rightarrow number of items.

* Take the difference between observe frequency and expected frequency $(O-E)$ and $(O-E)^2$

* Divided the value of $(O-E)^2$ obtain the following steps.

* if Chi-Square is 0 means the observe and expected frequency completely coincide.

* Degree of freedom. $D.F. = (\text{Column} - 1) (\text{Row} - 1)$

* Selection of Table value of χ^2 against the number of decrease of freedom for the specified level of significant.

* Compare the calculated value of χ^2 test with the table value.

* Decision regarding the acceptance (or) rejection of the null hypothesis (or) alternative hypothesis.